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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,973	04/05/2004	Brian W. Cho	68.0476	2972

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SCHLUMBERGER RESERVOIR COMPLETIONS  
14910 AIRLINE ROAD  
ROSHARON, TX 77583

EXAMINER

SMITH, MATTHEW J

ART UNIT PAPER NUMBER

3672

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/708,973

Applicant(s)

CHO ET AL.

Examiner

Matthew J. Smith

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11,15-17,21-23,25,27,28,32-34,38,39,43 and 44 is/are rejected.
- 7) ☒ Claim(s) 3,12-14,18-20,24,26,29-31,35-37,40-42 and 45-47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 18Oct04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "a spring that has a wall thickness that increases from a point near the end of the spring to a point near a midpoint of the spring" (claim 3) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claim 1 is objected to because of the following informalities: "and" implies at least one more limitation. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Retz (4501327).

Retz discloses a method comprising: deploying a spring 54 downhole; energizing the spring (fig. 1); energizing the spring before running the spring downhole (Fig. 2); releasing the spring from an unenergized state to form the annular barrier (Fig. 1); twisting the spring to reduce a diameter of the spring while maintaining the spring at the same axial length (Fig. 2); twisting the spring consistent with a helical orientation of the spring (Fig. 2); the spring having an axial length; energizing the spring by pulling the spring to energize the spring (Fig. 1); twisting the spring from a direction opposite from a direction defined by a helical orientation of the spring (Fig. 2); energizing the spring after running the spring downhole (Fig. 1); energizing the spring using and elastomer sleeve 66 to compress the spring.

Claims 16, 17, 21-23, 25, and 32-34 are rejected under 35 U.S.C. 102(b) as being anticipated by McCullough et al. (3314479).

McCullough et al. disclose a method comprising: forming a helical groove 14 in a tubular member 10 to form a spring that is used to expand in the subterranean well to form an annular barrier and longitudinally varying a profile of the tubular member to form the spring.

This reference also discloses an apparatus comprising: a spring adapted to expand to form an annular barrier in the well (Fig. 3B); a tubular member having a helical groove 14; a profile of the tubular member that varies along a longitudinal length of the spring (Fig. 1C); and an angle of the helical groove that varies along a length of the spring (Fig. 1C).

Claims 43 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Gore (3067819).

Gore discloses a wellbore having a minimum open (e.g., unobstructed) hole inner diameter, an apparatus comprising: a base pipe ("extender tool", col. 5, line 31) a tubular member having a helical groove or spring 49 mounted to the base pipe; and an outer sealing element 48 at least partially surrounding the spring; wherein when the sealing element is in a relaxed state, the spring has an outer diameter larger than the minimum open hole inner diameter (col. 5, lines 23-24).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Retz in view of Gore.

Retz discloses deploying a spring 54 downhole and energizing the spring (fig. 1) but not energizing a coil spring.

Gore presents a coil spring inflatable to seal.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a coil spring in the Retz device since the operation of the Retz device would function the same with a coil spring, which Gore presents as being well known.

Claims 27, 28, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough et al. in view of Gore.

McCullough et al. disclose a spring adapted to expand to form an annular barrier in the well (Fig. 3B) but not an elastomer, sealing sleeve circumscribing a spring.

Gore presents an elastomer, sealing sleeve 48 circumscribing a spring 49.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to encase the McCullough et al. body 10 with an elastomeric sleeve, as presented by Gore, in order to seal off perforations (Gore, col. 2, line 21).

***Allowable Subject Matter***

Claims 3, 12-14, 18-20, 24, 26, 29-31, 35-37, 40-42, and 45-47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is 571-272-7034. The examiner can normally be reached on T-F, 9-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

~~David Bagnell~~  
~~Supervisory Patent Examiner~~  
Art Unit 3672

MJS *MJS*  
16 March 2006

  
Jennifer H. Gay  
Primary Examiner